REBUTTAL TESTIMONY

of

Mike Luth
Rate Analyst

Rates Department
Financial Analysis Division
Illinois Commerce Commission

Petition for approval of delivery services tariffs and tariff revisions and of residential delivery services implementation plan and for approval of certain other amendments and additions to its rates, terms and conditions.

Commonwealth Edison Company

Docket No. 01-0423

October 16, 2001

Witness Identification

Q. Please state your name and business address.

A. Mike Luth, Illinois Commerce Commission, 527 East Capitol Avenue, Springfield, Illinois 62701.

Q. Are you the same Mike Luth who pre-filed direct testimony in this docket, which was identified as ICC Staff Exhibit 6.0?

A. Yes, I am.

Introduction to Testimony

Q. What is the subject matter of this rebuttal testimony?

A. There are four major subjects covered in this testimony:

1. To reply to Commonwealth Edison ("Edison") rebuttal testimony and Department of Energy ("DOE") direct testimony that favors a marginal Cost of Service Study ("COSS") over an embedded COSS,

2. To reply to Edison rebuttal testimony and DOE direct testimony that suggests that delivery services rates should be based upon ratcheted demand billing units rather than unratcheted demand billing units,

3. To reply to the City of Chicago, People of the State of Illinois, Cook County State's Attorney's Office and the Citizens Utility Board (collectively "GC") direct testimony proposing a 4 Coincident Peak ("4CP") allocation factor for demand-related cost of service instead of a Non-coincident peak ("NCP") demand allocation factor, and

4. To comment on the burdens discussed by Edison rebuttal testimony in implementing a High-voltage rate and demand rates carried out to five decimal places.

Q. Are you sponsoring any schedules as part of your testimony?

A. Yes, I am.

Schedule 1 Cost of Service and Rate Design

Marginal COSS vs. Embedded COSS

Q. Please review your reasons for supporting an embedded COSS instead of Edison's marginal COSS.

A. The embedded COSS is a better match in designing rates to recover an embedded delivery services revenue requirement than Edison's marginal COSS. Edison's proposed rates, based upon its marginal COSS, do not properly take load diversity within each customer class into consideration, which would be an important price signal that a prospective customer within a given rate class might have control over. Edison's marginal COSS shows that the cost per kW varies within each rate class according to the location of a customer, where the location is defined by the kilovoltampere (kVA) load density per square mile. The variation in costs is sometimes considerable, as described in my direct testimony. The result of not basing rates upon the location of a customer is that the price signals sent by Edison's marginal COSS are blunted because there is no incentive for a prospective customer to locate in a lower-cost area.

The embedded COSS is a better match for the recovery of an embedded revenue requirement because it is based upon actual costs and actual customer behavior. I agree with the intervenor witnesses who describe

"marginal" costs determined by Edison's marginal COSS as replacement costs. Indexed inflation of costs to connect a customer to the distribution system does not measure the costs of incremental or marginal use of the distribution system, because the customers being measured are existing, not marginal, customers. The inflation of costs for equipment already in place does not represent marginal costs because the equipment is already in place. It is more appropriate to design delivery services rates based upon an embedded COSS because the fairness of rates resulting from the actual costs chargeable to a class of customers overrides the alleged, but unproven, efficiency of rates resulting from the inflation of equipment costs already in place.

Q. What is your reply to Company witness Makholm's claim that you "forget that the prime distinction between embedded cost and marginal cost concepts in ratemaking is the ability of the latter to send correct price signals, i.e. to promote the *consumer rationing* function of a sound rate structure." (ComEd Ex. 34.0, p. 11, l. 270-273)

A. Most likely unwittingly, Dr. Makholm explains why a marginal COSS is inappropriate for delivery services. In attempting to explain how a marginal COSS signals the resources that will be consumed – looking forward – by a delivery services customer's desire to take services, Dr. Makholm states that embedded costs will not be affected by these decisions of consumers, *at the margin,* to take delivery services or not. (ComEd Ex. 34.0, p. 11, l. 276-278)

Dr. Makholm then further contradicts his criticism of an embedded COSS when he says that "embedded costs remain whether or not consumers buy ComEd's services." (ComEd Ex. 34.0, p. 11, l. 280 and 281) If, as Dr. Makholm states, embedded costs are not affected, at the margin, by a customer's decision to take delivery services or not, and embedded costs remain regardless of whether a customer takes delivery services, then marginal activity does not apparently cause delivery services costs. If marginal activity does not reflect cost causation, then cost causation is not reflected in Edison's marginal COSS. Since the delivery services rates are to be designed to recover an embedded revenue requirement, it is appropriate that an embedded COSS is used to design those rates.

Q. Is Dr. Makholm correct in concluding that your statements are wrong that an embedded COSS measures the costs of the delivery services equipment in place resulting from the activities of the various classes of customers?

A. No, he is not. As explained previously, some of the points that Dr. Makholm attempts to make are contradictory. He takes issue with my statement that embedded costs are the result of the activities of the various classes of customers. In his zeal to promote pricing based upon what he terms "forward-looking" delivery services costs, he states that embedded costs remain whether or not consumers buy ComEd's services (Id, lines 264-269 and lines 279-281). Dr. Makholm's explanation ignores the activities that necessitated 100% of those costs in the first place, which is customer demand. Without

customer demand for delivery services, the embedded costs that Dr. Makholm dismisses as irrelevant to the concept of cost causation would not be necessary because there would be no need to build a distribution system.

Dr. Makholm also ignores the probability that delivery services customers will continue to demand delivery services in the near-future at a level similar to the demand in the recent past. The test year concept is based upon a reasonable expectation that near-term delivery services costs will be similar to those in the recent past because customer behavior is not expected to vary substantially. Dr. Makholm's confusing rejection of customer activity causing the embedded delivery services costs under review in this docket is not persuasive in favor of Edison's marginal COSS. Dr. Makholm's position also ignores the fairness of charging customers based upon their activities that caused those embedded costs.

Q. In arguing against distinguishing between new and existing customers, the Panel Rebuttal Testimony of Edison witnesses Alongi and Kelly indicate that, in the long-term view, each customer's contribution to ComEd's peak level of demand causes ComEd to incur costs when one more customer is added or one more kilowatt is demanded of the system. (ComEd Ex. 32.0, p. 7, l. 136-143) Do these comments support the use of a marginal COSS?

A. No, the comments support the use of an embedded COSS to determine rates designed to recover the embedded revenue requirement in this docket. As

equipment is added to the Edison distribution system because of additional demand, be it from existing or new customers, the embedded revenue requirement will change. At the time that Edison is no longer earning a reasonable and fair rate of return on its investment in distribution plant-in-service, new rates can be designed based upon the updated embedded revenue requirement in a future delivery services rate case. Mr. Alongi and Ms. Kelly's comments demonstrate that the continuing activities of customers, through the customers' combined demand for delivery services, cause the costs of the distribution system.

Q. Are you proposing different rates for delivery services customers within the same rate class, depending upon whether the customers are new or existing?

A. No, I am not. The section of my direct testimony that Edison Panel witnesses Alongi and Kelly reference is meant to show that the price signals indicated by Edison's marginal COSS are minimized. It is more appropriate for the delivery services charges that a customer class will pay to be based upon the demand that the customer class places on the distribution system, as is reflected in an embedded COSS, rather than an averaging of inflated distribution system costs based upon an index, as is reflected in Edison's marginal COSS.

Q. Please clarify your assertion concerning hypothetical costs being reflected in Edison's marginal COSS, which Edison panel witnesses Alongi and Kelly

characterize as current costs of distribution facilities (ComEd Ex. 32.0, p. 10, lines 209-214).

A. The current costs in the marginal COSS are hypothetical in that the costs are inflated by an index, rather than representing the actual costs of the equipment that is included in the embedded revenue requirement to be determined in this docket.

Q. United States Department of Energy witness Dr. Swan favors a marginal COSS over an embedded COSS based upon his belief that economic efficiency is improved with a marginal COSS (Direct Testimony of Dr. Dale E. Swan, pp. 5-6, l. 92-103). Assuming the clients that Dr. Swan represents are in the over 10,000 kW delivery services class, which is the largest proposed customer class, what is the class revenue requirement for the over 10,000 kW delivery services class under the marginal COSS compared to the embedded COSS?

A. The over 10,000 kW class has a delivery services revenue requirement of $60.1 million under Edison's marginal COSS (ComEd Ex. 13.1, p. 3), compared to $76.7 million under Edison's embedded COSS (Edison reply to Staff data request ML-1). The $16.6 million difference would be left to other delivery services customers. The value of Dr. Swan's counsel to the Commission of his preference for a marginal COSS under the banner of economic efficiency is a bit tempered by the self-interest that his counsel serves.

Under Edison's embedded COSS, the over 10,000 kW class would pay approximately $.00741 per kWh compared to $.0367 per kWh for the single family without space heat. (Id.) The over 10,000 kW class would pay just over 1/5th of the per-kWh delivery services rate. The High-voltage rate or credit for the over 10,000 class reduces the per-kWh rate for those customers further. Even though the over 10,000 kW delivery services customer class is billed per kW of demand compared to the per-kWh consumption rate for residential customers, the per-kWh rate indicates that the embedded COSS provides relief to the clients represented by Dr. Swan for their high-volume use of the distribution system in the form of a substantially lower rate.

4CP Allocation Factor vs. NCP Allocation Factor

Q. Should demand-related charges be based upon the 4-month Coincident Peak ("4CP") allocation factor recommended by City of Chicago, People of the State of Illinois, Cook County State's Attorney Office and Citizens Utility Board witness Bodmer (GC Exhibit 1.0, pp. 60-71, l. 1179-1388) instead of the Non-coincident Peak ("NCP") allocation factor used in your embedded COSS?

A. No, it should not. As Mr. Bodmer mentions, there is no perfect system-wide allocation factor for demand-related delivery services costs. (Id., p. 67, l. 1312-1327) The NCP can be viewed as a measure of the potential contribution of each customer class to cost causation because the sum of the NCP for all customer classes represents the capacity of the distribution system that stands by to serve the electrical demand of all customers at any given

time. While the entire distribution system is not sized to meet the sum of NCP for all customer classes at the same time, some elements of it are sized to meet localized peak demands, as explained by Edison witness Born (ComEd Ex. 37.0, pp. 4-7, l. 66-125). Efforts to downsize the capacity, and cost, of elements of the distribution system according to system-wide peak demands, rather than the sum of the peaks of all customer classes, represent cost savings in meeting the projected peak for all customers, but should not represent a method of determining the costs of the entire distribution system caused by each class of customers. While not perfect, NCP is a fair measure of the use of the distribution system by each class of customers, and is therefore a fair measure of determining rates for that use.

Q. Do you agree with Edison witness Heintz' revision of his embedded COSS which allocates the costs of High-voltage equipment to the customer classes according to a 1CP method? (ComEd Ex. 33.0, p. 4, l. 94-108)

A. Yes, I do. Mr. Heintz' revision is supported in the rebuttal testimony of Edison witness Born, an engineer. (ComEd Ex. 37.0, p. 5, line 79-87). It is reasonable to expect that high-voltage equipment is not sized according to the sum of localized peak demands over several points in time in a given year. The costs for high-voltage equipment, which is used in less of a localized manner and more in a system-wide manner, should be allocated according to the contribution of each customer class to the system-wide peak, as is fairly represented by a 1CP allocation factor. The use of a 1CP allocation factor for

High-voltage distribution substations and High-voltage distribution lines is reflected in Schedule 1 attached to this rebuttal testimony.

Rate Design - Ratcheted vs. Unratcheted Demand Billing Units

Q. Do Edison panel rebuttal witnesses Clair and Crumrine (ComEd Ex. 31.0, pp. 10-12, l. 227-273) accept your proposal to design demand-metered rates based upon unratcheted billing units?

A. No, they do not. They continue to push for demand-metered rates based upon ratcheted billing units. They state that they believe ratcheted rates are appropriately responsive to changes in demand resulting from efficiency improvements or slumped business conditions.

Q. Are their arguments persuasive?

A. No, they are not. In reply to the concern that a customer's bill would not be reduced if slumped business conditions resulted in reduced demand, Edison panel witnesses Clair and Crumrine express their agreement with Department of Energy witness Swan's analogy comparing a demand ratchet with a lease for real estate. (Id., p. 11, l. 233-243) Dr. Swan's analogy stated that the cost of a real estate lease would not be reduced if a change in business conditions resulted in a need for less space. Possible renegotiation of the business lease aside, another analogy would be using a service station to partially fill a delivery truck's fuel tank. A demand ratchet would charge the delivery truck for the annual high of, for example, 100 gallons of fuel taken 9 months ago, even if,

at the present time, the delivery truck takes only 15 gallons. Standard procedure, of course, would charge the delivery truck for only 15 gallons, since that was all that was taken. As a source of energy delivery, the distribution system is a closer analogy to a service station than a real estate lease, but the difference in treatment of a customer indicates that analogies are not always illustrative and can be used to show different sides of a given issue.

Edison witnesses Clair and Crumrine also state that a billing ratchet provides more of an economic incentive to install efficiency improvements. This would be the case if the demand ratchet is considerably higher than average demand and the efficiency improvements reduced the demand ratchet by a greater percentage than average demand. If the potential efficiency improvements reduced peak demand only slightly, however, while significantly reducing average demand over the course of 11 months, the customer's demand billing would be affected only to a small degree because the demand ratchet based upon peak demand would change only slightly. If the demand ratchet did not change sufficiently to make the improvements financially beneficial to the customer, the improvements would probably not be made. To the extent that a demand-ratcheted customer peaked during a non-summer month, any extra reliability contributed to the distribution system during high distribution demand summer months because of the potential efficiency improvements would be lost.

Q. Are the demand charges in Edison's bundled rates billed according to a demand ratchet?

A. No, demand charges under bundled rates are billed according to the monthly demand reading as opposed to a ratcheted demand charge based upon the maximum demand reading over the past 12 months. In rejecting ARES coalition witness Dr. Ulrich's proposal that Edison's rate structure be realigned by voltage level, Edison panel rebuttal witnesses Clair and Crumrine state that Dr. Ulrich's proposal would "completely upset the apple cart . . ." (Edison Ex. 31.0, p. 23, l. 515) Edison panel rebuttal witnesses Clair and Crumrine do not apply the same criticism to Edison's proposal in this docket to base demand-related delivery services charges upon a demand ratchet, although the "apple cart would be upset" because Edison's proposal represents a change in the method of billing for demand-related charges. Customer comparison of delivery services charges, which would include the charges for the purchase of power from an ARES, with bundled rates would be complicated by the difference in billing approaches. Billing for demand-related charges based upon a billing ratchet would also affect Edison's billing system, with the requirement that the current month's demand be compared to monthly demands over the past 12 months. As explained in my direct testimony and reiterated here in rebuttal testimony, Edison's proposed demand ratchet for delivery services suffers from the same problems discussed in the Commission's Order in the previous Edison delivery services docket where the demand ratchet was rejected. (Order, Docket No. 99-0117, pp. 58-64)

High-voltage Rate Design

Q. What is your assessment of the description of your proposed high-voltage rate as burdensome and confusing in the panel rebuttal testimony of Edison witnesses Clair and Crumrine? (ComEd Ex. 31.0, pp. 25-26, l. 569-589)

A. It is difficult to determine why a single separate rate for high-voltage service points is more burdensome and confusing than a credit that represents a discount from full-price demand charges. If I were a high-voltage customer and it was explained to me that I would be billed according to a "Gross" demand charge reduced by a "High-voltage credit", my reaction would be to ask "What do I pay?" A single separate high-voltage rate would eliminate that sequence for the customer, and the amount to be paid for service from high-voltage delivery points would be clearer than a billing system obscured by a "Gross" charge minus a "Credit."

With respect to a burden placed on Edison, the burden may have to do with changing the bill presentation to describe the high-voltage line as a rate rather than a credit, and changing the calculation of the total bill from a gross demand charge minus a high-voltage credit to a low-voltage demand charge plus a high-voltage demand charge. This would not seem to be any more of a burden than making the necessary inputs to change the delivery services rates that will likely result from the Commission's Order in this docket.

Rate Design Billing Constraints

Q. Did you place any constraints on the number of decimal points in the delivery services rates that you proposed in direct testimony?

A. Yes, I did. Contrary to the comment in the panel rebuttal testimony of Edison witnesses Alongi and Kelly stating that I did not apply any billing system constraints, (ComEd Ex. 32.0, p. 26, l. 547 through 549) I limited all demand-related rates to five decimal places, which is the same number of decimal places proposed in Edison's proposed per-kWh delivery services rates for those customers not served by demand meters. A higher number of decimal places minimizes rounding problems in class revenue recovery. The form of my proposed fixed monthly customer charges is the same as Edison's, being carried out to two decimal places, or dollars and cents.

Similar to the criticisms concerning a single high-voltage rate compared to a "Gross" demand charge minus a high-voltage credit, it is difficult to understand how additional decimal places contained in a delivery services rate imposes a significant burden on Edison's billing system. Edison will be required to make changes to its billing systems to install revised and new delivery services rates resulting from the Commission's Order in this docket. Edison's billing system should have the ability to accommodate five decimal places for demand rates, given that the per-kWh rates are carried out to five decimal places.

298 Q. Does this conclude your rebuttal testimony?

299 A. Yes, it does.

COMMONWEALTH EDISON COMPANY
COST OF SERVICE STUDY AND RATE DESIGN

TEST YEAR ENDED DECEMBER 31, 2000

0.8361310

		Allocator	Total ICC	Single Family w/o SH	Single Family w/SH	Multi Family w/o SH	Multi Family w/SH	GS No Demand	GS 0-25 kw	GS 26-100 kw	GS 101-400 kw	GS 401-800 kw
	ADDITIONS											
1	Illinois Electricity Distribution Tax	KWH-ALL	88,119,175	17,924,752	1,025,428	3,749,478	1,855,386	700,189	3,619,375	6,913,579	10,130,796	8,057,086
2	System Black Start	KWH-ALL	361,878	73,611	4,211	15,398	7,619	2,875	14,864	28,392	41,604	33,088
3	TOTAL COST OF SERVICE (Revenue-Related Undistributed)		1,494,140,980 1,494,140,980	551,057,604	21,217,832	154,527,908	49,231,571	19,566,892	66,633,780	96,622,817	127,073,457	89,395,231
	DEMAND-RELATED COST OF SERVICE (Reduced for Other Revenues)											
4	High Voltage ESS		11,623,764	0	0	0	0	0	0	0	0	13,314
5	High Voltage Dist. Substations		237,783,694	75,571,167	2,111,805	15,445,566	3,971,635	2,368,713	11,628,006	20,634,417	28,047,191	19,524,378
6	High Voltage Dist. Lines		33,365,269	10,603,975	296,324	2,167,287	557,291	332,372	1,631,615	2,895,375	3,935,518	2,739,616
7	Distribution Substations		100,514,894	33,728,423	1,707,958	6,167,179	3,772,759	870,539	4,261,023	7,716,615	10,490,195	7,523,041
8	Distribution Lines		612,430,755	205,505,104	10,406,478	37,576,221	22,987,176	5,304,138	25,962,138	47,016,839	63,916,078	45,837,400
9	Line Transformers		68,954,429	23,285,087	1,179,123	4,257,634	2,604,599	600,994	2,941,682	5,327,319	7,242,114	5,193,681
10	Uncollectible Accounts		8,292,914	1,741,616	149,191	3,443,930	759,574	55,403	283,589	565,142	630,973	402,006
11	Revenue-related		(12,268,872)	(4,121,861)	(180,271)	(824,912)	(396,847)	(117,526)	(579,576)	(957,915)	(1,264,772)	(892,760)
12	Illinois Electricity Distribution Tax and System Black Start		88,481,053	17,998,363	1,029,640	3,764,876	1,863,006	703,065	3,634,239	6,941,971	10,172,400	8,090,174
13	Total Demand-related Costs		1,149,177,899	364,311,875	16,700,247	71,997,782	36,119,193	10,117,698	49,762,717	90,139,764	123,169,698	88,430,850
14	Less: High-voltage Revenues		17,557,725	-	-	-	-	-	-	-	628	19,514
15	Net Demand-related Costs <69 kV)		1,111,914,945	364,311,875	16,700,247	71,997,782	36,119,193	10,117,698	49,762,717	90,139,764	123,169,070	88,411,336
16	Divided by: Unratcheted Demand billing units (<69 kV)			18,085,441,483	1,052,574,530	3,757,622,321	1,931,763,743	693,286,760	13,557,695	22,077,986	28,494,232	19,038,553
17	Rate - per kWh or kW			$ 0.02014 per kWh	$ 0.01587 per kWh	$ 0.01916 per kWh	$ 0.01870 per kWh	$ 0.01459 per kWh	$ 3.67044 per kW	$ 4.08279 per kW	$ 4.32260 per kW	$ 4.64381 per kW

COMMONWEALTH EDISON COMPANY
COST OF SERVICE STUDY AND RATE DESIGN

TEST YEAR ENDED DECEMBER 31, 2000

		Allocator	GS 801-1000 kw	GS 1001-3000 kw	GS 3001-6000 kw	GS 6001-10000 kw	GS Over 10000 kw	Fixt. Incl. Ltg	Street Lighting Dusk to Dawn	All Other Lighting	Railroads	Water/Sewer Pumping
	ADDITIONS											
1	Illinois Electricity Distribution Tax	KWH-ALL	2,371,398	10,388,338	6,122,413	2,875,851	10,531,436	129,716	493,844	90,846	452,526	686,736
2	System Black Start	KWH-ALL	9,739	42,662	25,143	11,810	43,249	533	2,028	373	1,858	2,820
3	TOTAL COST OF SERVICE (Revenue-Related Undistributed)		26,742,419	107,467,538	60,261,541	26,331,785	63,626,196	14,905,649	5,444,413	705,734	6,151,718	7,176,895
	DEMAND-RELATED COST OF SERVICE (Reduced for Other Revenues)											
4	High Voltage ESS		1,414	53,980	289,678	521,341	10,744,037	0	0	0	0	0
5	High Voltage Dist. Substations		5,636,471	22,277,697	12,547,125	5,529,767	9,993,564	3,238	11,965	133,809	1,074,680	1,272,499
6	High Voltage Dist. Lines		790,897	3,125,956	1,760,584	775,924	1,402,274	454	1,679	18,776	150,797	178,554
7	Distribution Substations		2,304,603	8,794,533	5,027,854	2,133,794	4,007,499	154,233	584,779	50,686	634,480	584,701
8	Distribution Lines		14,041,799	53,584,524	30,634,391	13,001,070	24,417,431	939,732	3,563,021	308,824	3,865,843	3,562,546
9	Line Transformers		1,591,029	6,071,481	3,471,079	1,473,107	2,766,656	106,478	403,714	34,992	0	403,660
10	Uncollectible Accounts		115,878	63,041	34,202	15,210	29,220	371	1,349	276	-	1,942
11	Revenue-related		(267,836)	(1,028,805)	(588,100)	(256,486)	(587,077)	(16,866)	(50,590)	(6,027)	(61,991)	(68,656)
12	Illinois Electricity Distribution Tax and System Black Start		2,381,137	10,431,000	6,147,556	2,887,661	10,574,685	130,249	495,872	91,219	454,385	689,556
13	Total Demand-related Costs		26,595,391	103,373,407	59,324,370	26,081,388	63,348,290	1,317,890	5,011,789	632,554	6,118,193	6,624,802
14	Less: High-voltage Revenues		-	56,197	284,167	583,253	16,613,965					
15	Net Demand-related Costs <69 kV)		26,595,391	103,317,210	59,040,203	25,498,135	46,734,325					
16	Divided by: Unratcheted Demand billing units (<69 kV)		5,470,816	22,384,760	12,346,201	5,428,188	9,984,179		combined with customer costs	combined with customer costs	1,318,375	combined with customer costs
17	Rate - per kWh or kW		$ 4.86132 per kW	$ 4.61552 per kW	$ 4.78205 per kW	$ 4.69736 per kW	$ 4.68084 per kW	see page 9, this schedule	below	below	$ 4.64071 per kW	below

COMMONWEALTH EDISON COMPANY
COST OF SERVICE STUDY AND RATE DESIGN

TEST YEAR ENDED DECEMBER 31, 2000

0.8361310

		Allocator	Total ICC	Single Family w/o SH	Single Family w/SH	Multi Family w/o SH	Multi Family w/SH	GS No Demand	GS 0-25 kw	GS 26-100 kw	GS 101-400 kw	GS 401-800 kw
1	Uncollectible Accounts - High Voltage Share	HV/Total									9	269
2	Revenue-related - High Voltage Share	HV/Total									(19)	(598)
3	Illinois Electricity Distribution Tax and System Black Start - High Voltage Share	HV/Total									153	5,423
4											144	5,094
5	Divided by: Unratcheted High-voltage billing units										429	12,770
6											$ 0.33475	$ 0.39889
7	Plus: High Voltage Demand Rate										1.12926	1.12926
8	Total High Voltage Demand Rate								$ 1.46401	$ 1.46401	$ 1.46401	$ 1.52815
9	Unratcheted High-voltage billing units								0	0	429	12,770
10	High-voltage Revenues								$ -	$ -	$ 628	$ 19,514
11												
12												
13												
14												
15												
16												

COMMONWEALTH EDISON COMPANY
COST OF SERVICE STUDY AND RATE DESIGN

TEST YEAR ENDED DECEMBER 31, 2000

		Allocator	GS 801-1000 kw	GS 1001-3000 kw	GS 3001-6000 kw	GS 6001-10000 kw	GS Over 10000 kw	Fixt. Incl. Ltg	Street Lighting Dusk to Dawn	All Other Lighting	Railroads	Water/Sewer Pumping
1	Uncollectible Accounts - High Voltage Share	HV/Total	-	102	492	965	14,784					
2	Revenue-related - High Voltage Share	HV/Total	-	(1,662)	(8,466)	(16,275)	(297,028)					
3	Illinois Electricity Distribution Tax and System Black Start - High Voltage Share	HV/Total	-	16,852	88,500	183,238	5,350,199					
4			-	15,292	80,526	167,927	5,067,954					
5	Divided by: Unratcheted High-voltage billing units		0	36,223	180,332	367,786	10,224,419					
6			$ 0.41053	$ 0.42216	$ 0.44654	$ 0.45659	$ 0.49567					
7	Plus: High Voltage Demand Rate		1.12926	1.12926	1.12926	1.12926	1.12926					
8	Total High Voltage Demand Rate		$ 1.53979	$ 1.55142	$ 1.57580	$ 1.58585	$ 1.62493					
9	Unratcheted High-voltage billing units		0	36,223	180,332	367,786	10,224,419					
10	High-voltage Revenues		$ -	$ 56,197	$ 284,167	$ 583,253	$ 16,613,965					

HVDS RATE (based upon over 10,000 kW class)

11	High Voltage ESS	10,744,037
12	High Voltage Dist. Substations	92,512
13	High Voltage Dist. Lines	709,472
14	High Voltage Demand Costs	11,546,021
15	Divided by: Unratcheted High Voltage Demand billing units	10,224,419
16	High Voltage Demand Rate per kW	$ 1.12926

COMMONWEALTH EDISON COMPANY
COST OF SERVICE STUDY AND RATE DESIGN

TEST YEAR ENDED DECEMBER 31, 2000

0.8361310

		Allocator	Total ICC	Single Family w/o SH	Single Family w/SH	Multi Family w/o SH	Multi Family w/SH	GS No Demand	GS 0-25 kw	GS 26-100 kw	GS 101-400 kw	GS 401-800 kw
	CUSTOMER-RELATED COST OF SERVICE (Reduced for Other Revenues)											
1	Services		24,008,561	17,011,841	664,063	1,560,205	389,212	396,697	526,832	486,551	1,742,696	388,807
2	Customer Install. Other		51,489,443	30,081,717	679,543	13,657,827	2,205,886	1,590,639	2,112,441	750,095	248,014	55,334
3	Fixt.-Incl. Ltg.		13,596,303	-	-	-	-	-	-	-	-	-
4	Billing -- Computation & Data Mang.		137,300,371	77,351,558	1,747,364	35,119,477	5,672,174	4,090,138	5,431,890	1,928,780	637,739	142,284
5	Bill Issue & Processing		21,925,257	12,809,410	289,363	5,815,782	939,311	677,326	899,520	319,406	105,610	23,562
6	Customer Information		13,743,592	8,029,429	181,384	3,645,555	588,796	424,574	563,854	200,216	66,200	14,770
7	Uncollectible Accounts		4,269,895	725,648	33,842	3,138,711	219,521	41,972	58,243	24,914	15,549	3,107
8	Revenue-Related		(3,172,281)	(1,717,382)	(40,892)	(751,804)	(114,691)	(89,035)	(119,032)	(42,229)	(31,168)	(6,900)
9	Total Customer-related Costs		263,161,139	144,292,220	3,554,666	62,185,752	9,900,211	7,132,311	9,473,747	3,667,732	2,784,640	620,963
10	Divided by: Monthly bills, except Pumping Class kWh			24,692,283	557,791	11,210,889	1,810,676	1,305,660	1,733,977	615,702	203,585	45,417
11	Monthly Customer Charge			$ 5.84	$ 6.37	$ 5.55	$ 5.47	$ 5.46	$ 5.46	$ 5.96	$ 13.68	$ 13.67
	- Lighting and Pumping Class on a per-kWh basis, all others a fixed monthly charge			per month	per month	per month	per month	per month	per month	per month	per month	per month
12	METERING SERVICES		81,801,942	42,453,510	962,918	20,344,374	3,212,168	2,316,884	7,397,316	2,815,321	1,119,119	343,418
13	Divided by: Monthly bills, except Lighting and Pumping Class kWh			24,692,283	557,791	11,210,889	1,810,676	1,305,660	1,733,977	615,702	203,585	45,417
14	Monthly Metering Charge, except Lighting and Pumping Class kWh			$ 1.72	$ 1.73	$ 1.81	$ 1.77	$ 1.77	$ 4.27	$ 4.57	$ 5.50	$ 7.56
15	TOTAL COST OF SERVICE		$ 1,494,140,980	$ 551,057,604	$ 21,217,832	$ 154,527,908	$ 49,231,571	$ 19,566,892	$ 66,633,780	$ 96,622,817	$ 127,073,457	$ 89,395,231

COMMONWEALTH EDISON COMPANY
COST OF SERVICE STUDY AND RATE DESIGN

TEST YEAR ENDED DECEMBER 31, 2000

		Allocator	GS 801-1000 kw	GS 1001-3000 kw	GS 3001-6000 kw	GS 6001-10000 kw	GS Over 10000 kw	Fixt. Incl. Ltg	Street Lighting Dusk to Dawn	All Other Lighting	Railroads	Water/Sewer Pumping
	CUSTOMER-RELATED COST OF SERVICE (Reduced for Other Revenues)											
1	Services		66,462	148,965	32,643	8,613	-	-	300,786	31,903	-	252,288
2	Customer Install. Other		9,459	20,481	4,488	1,184	1,243	26,358	26,066	8,962	29	9,678
3	Fixt.-Incl. Ltg.		-	-	-	-	-	13,596,303	-	-	-	-
4	Billing -- Computation & Data Mang.		24,322	3,662,368	802,532	211,743	222,199	135,555	67,026	23,044	5,295	24,886
5	Bill Issue & Processing		4,028	8,721	1,911	504	529	11,224	11,099	3,816	12	4,121
6	Customer Information		2,525	5,467	1,198	316	332	7,036	6,958	2,392	8	2,583
7	Uncollectible Accounts		508	2,582	536	144	123	4,242	122	35	-	95
8	Revenue-Related		(1,174)	(42,135)	(9,224)	(2,434)	(2,469)	(192,959)	(4,565)	(772)	(58)	(3,358)
9	Total Customer-related Costs		106,128	3,806,450	834,083	220,071	221,957	13,587,759	5,419,280	701,933	5,287	6,915,095
10	Divided by: Monthly bills, except Pumping Class kWh		7,761	16,813	3,688	964	1,021		482,239,768	88,711,232	840	672,591,581
11	Monthly Customer Charge		$ 13.67	$ 226.40	$ 226.16	$ 228.29	$ 217.39		$ 0.01124	$ 0.00791	$ 6.29	$ 0.01028
	- Lighting and Pumping Class on a per-kWh basis, all others a fixed monthly charge		per month	per month	per month	per month	per month		per kWh	per kWh	per month	per kWh
12	METERING SERVICES		40,900	287,681	103,087	30,326	55,949	-	25,132	3,801	28,238	261,800
13	Divided by: Monthly bills, except Lighting and Pumping Class kWh		7,761	16,813	3,688	964	1,021		482,239,768	88,711,232	840	672,591,581
14	Monthly Metering Charge, except Lighting and Pumping Class kWh		$ 5.27	$ 17.11	$ 27.95	$ 31.46	$ 54.80		$ 0.00005	$ 0.00004	$ 33.62	$ 0.00039
15	TOTAL COST OF SERVICE		$ 26,742,419	$ 107,467,538	$ 60,261,541	$ 26,331,785	$ 63,626,196	$ 14,905,649	$ 5,444,413	$ 705,734	$ 6,151,718	$ 7,176,895

COMMONWEALTH EDISON COMPANY
COST OF SERVICE STUDY AND RATE DESIGN

TEST YEAR ENDED DECEMBER 31, 2000

0.8361310

		Allocator	Total ICC	Single Family w/o SH	Single Family w/SH	Multi Family w/o SH	Multi Family w/SH	GS No Demand	GS 0-25 kw	GS 26-100 kw	GS 101-400 kw	GS 401-800 kw
	REVENUES AS BILLED											
1	Demand Rate			$ 0.02015	$ 0.01586	$ 0.01916	$ 0.01870	$ 0.01459	$ 3.67043	$ 4.08278	$ 4.32260	$ 4.64381
2	Multiplied by: Demand Billing Units			18,085,441,483	1,052,574,530	3,757,622,321	1,931,763,743	693,286,760	13,557,695	22,077,986	28,494,232	19,038,553
3	Demand Revenues			$ 364,421,646	$ 16,693,832	$ 71,996,044	$ 36,123,982	$ 10,115,054	$ 49,762,570	$ 90,139,560	$ 123,169,167	$ 88,411,423
4	High-Voltage Demand Rate			$ -	$ -	$ -	$ -	$ -	$ 1.46401	$ 1.46401	$ 1.46401	$ 1.52815
5	Multiplied by: High-Voltage Billing Units			-	-	-	-	-	-	-	429	12,770
6	High-Voltage Demand Revenues			$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 628	$ 19,514
7	Monthly Customer Charge			$ 5.84	$ 6.37	$ 5.55	$ 5.47	$ 5.46	$ 5.46	$ 5.96	$ 13.67	$ 13.67
8	Multiplied by: Monthly Bills			24,692,283	557,791	11,210,889	1,810,676	1,305,660	1,733,977	615,702	203,585	45,417
9	Customer Charge Revenues			$ 144,202,933	$ 3,553,129	$ 62,220,434	$ 9,904,398	$ 7,128,904	$ 9,467,514	$ 3,669,584	$ 2,783,007	$ 620,850
10	Monthly Meter Charge			$ 1.72	$ 1.73	$ 1.81	$ 1.77	$ 1.77	$ 4.27	$ 4.57	$ 5.50	$ 7.56
11	Multiplied by: Monthly Bills			24,692,283	557,791	11,210,889	1,810,676	1,305,660	1,733,977	615,702	203,585	45,417
12	Metering Charge Revenues			$ 42,470,727	$ 964,978	$ 20,291,709	$ 3,204,897	$ 2,311,018	$ 7,404,082	$ 2,813,758	$ 1,119,718	$ 343,353
13	Total Revenues as Billed		$ 1,494,140,969	$ 551,095,305	$ 21,211,939	$ 154,508,187	$ 49,233,276	$ 19,554,976	$ 66,634,167	$ 96,622,902	$ 127,072,520	$ 89,395,140
14	Total Revenues Allocated		1,494,140,980	551,057,604	21,217,832	154,527,908	49,231,571	19,566,892	66,633,780	96,622,817	127,073,457	89,395,231
15	Excess/(deficit)		$ (11)	$ 37,701	$ (5,893)	$ (19,721)	$ 1,705	$ (11,917)	$ 387	$ 84	$ (937)	$ (91)

COMMONWEALTH EDISON COMPANY
COST OF SERVICE STUDY AND RATE DESIGN

TEST YEAR ENDED DECEMBER 31, 2000

	Allocator	GS 801-1000 kw	GS 1001-3000 kw	GS 3001-6000 kw	GS 6001-10000 kw	GS Over 10000 kw	Fixt. Incl. Ltg	Street Lighting Dusk to Dawn	All Other Lighting	Railroads	Water/Sewer Pumping
REVENUES AS BILLED											
1 Demand Rate		$ 4.86132	$ 4.61551	$ 4.78206	$ 4.69736	$ 4.68084	see page 9,	$ 0.01124	$ 0.00791	$ 4.64071	$ 0.01028
2 Multiplied by: Demand Billing Units		5,470,816	22,384,760	12,346,201	5,428,188	9,984,179	this schedule	482,239,768	88,711,232	1,318,375	672,591,581
3 Demand Revenues		$ 26,595,387	$ 103,317,084	$ 59,040,274	$ 25,498,153	$ 46,734,344		$ 5,420,375	$ 701,706	$ 6,118,196	$ 6,914,241
4 High-Voltage Demand Rate		$ 1.53979	$ 1.55142	$ 1.57580	$ 1.58585	$ 1.62493	$ -	$ -	$ -	$ -	$ -
5 Multiplied by: High-Voltage Billing Units		-	36,223	180,332	367,786	10,224,419	-	-	-	-	-
6 High-Voltage Demand Revenues		$ -	$ 56,197	$ 284,167	$ 583,253	$ 16,613,965	$ -	$ -	$ -	$ -	$ -
7 Monthly Customer Charge		$ 13.67	$ 226.40	$ 226.15	$ 228.29	$ 217.40	$ -			$ 6.30	
8 Multiplied by: Monthly Bills		7,761	16,813	3,688	964	1,021	-			840	
9 Customer Charge Revenues		$ 106,093	$ 3,806,463	$ 834,041	$ 220,072	$ 221,965	$ -			$ 5,292	
10 Monthly Meter Charge		$ 5.27	$ 17.11	$ 27.95	$ 31.46	$ 54.80	$ -	$ 0.00005	$ 0.00004	$ 33.62	$ 0.00039
11 Multiplied by: Monthly Bills		7,761	16,813	3,688	964	1,021	-	482,239,768	88,711,232	840	672,591,581
12 Metering Charge Revenues		$ 40,900	$ 287,670	$ 103,080	$ 30,327	$ 55,951	$ -	$ 24,112	$ 3,548	$ 28,241	$ 262,311
13 Total Revenues as Billed		$ 26,742,381	$ 107,467,414	$ 60,261,562	$ 26,331,806	$ 63,626,226	$ 14,905,147	$ 5,444,487	$ 705,254	$ 6,151,729	$ 7,176,552
14 Total Revenues Allocated		26,742,419	107,467,538	60,261,541	26,331,785	63,626,196	14,905,649	5,444,413	705,734	6,151,718	7,176,895
15 Excess/(deficit)		$ (39)	$ (124)	$ 21	$ 21	$ 30	$ (502)	$ 74	$ (480)	$ 11	$ (343)

COMMONWEALTH EDISON COMPANY
COST OF SERVICE STUDY AND RATE DESIGN

TEST YEAR ENDED DECEMBER 31, 2000

FIXTURE-INCLUDED LIGHTING

1	Staff COSS Total Costs allocated	$ 14,905,649
	Divided by: Company COSS Total	
2	Cost allocated	18,312,538
3	Adjustment Factor	0.81396

	Charge per Fixture Municipal Street Lighting:	Billing Units	Co. Proposed Rate	Adjustment Factor	Staff Rate	Revenues
4	Mercury Vapor -- 100 watts	252,558	$ 5.05	0.81396	$ 4.11	$ 1,038,013
5	175 watts	649,128	5.62	0.81396	$ 4.57	2,966,515
6	250 watts	104,106	6.21	0.81396	$ 5.05	525,735
7	400 watts	118,194	7.43	0.81396	$ 6.05	715,074
8	High Pressure Sodium -- 70 watts	16,662	$ 5.59	0.81396	$ 4.54	$ 75,645
9	100 watts	189,972	5.47	0.81396	$ 4.45	845,375
10	150 watts	188,640	5.86	0.81396	$ 4.77	899,813
11	250 watts	131,922	6.92	0.81396	$ 5.63	742,721
12	400 watts	25,020	8.12	0.81396	$ 6.61	165,382
13	1,000 watts	1,644	17.56	0.81396	$ 14.29	23,493
14	Special Equipment -- Bracket <8 feet	905,808	$ 2.64	0.81396	$ 2.15	$ 1,947,487
15	Bracket >8 feet	622,254	5.37	0.81396	$ 4.37	2,719,250
16	Luminaire -- Post Top (Early American/Contemporary)	51,426	$ 2.57	0.81396	$ 2.09	$ 107,480
17	Luminaire -- Acorn	4,782	6.98	0.81396	$ 5.68	27,162
	Charge per Fixture Private Outdoor Lighting:					
18	Mercury Vapor -- 175 watts	136,799	$ 6.07	0.81396	$ 4.94	$ 675,787
19	400 watts	47,865	8.25	0.81396	$ 6.72	321,653
	High Pressure Sodium Flood --					
20	100 watts	26,930	$ 7.85	0.81396	$ 6.39	$ 172,083
21	250 watts	121,142	8.67	0.81396	$ 7.06	855,263
	High Pressure Sodium Conventional -					
22	100 watts	5,373	$ 6.06	0.81396	$ 4.93	$ 26,489
23	400 watts	10,464	6.43	0.81396	$ 5.23	54,727
24		3,610,689				$ 14,905,147